

## Methodology for Ranking of Counties by Severity of Targeted Health Behaviors

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The table entitled: *Ranking of Counties by Severity of Targeted Health Behaviors* ranks each county by level of risk on six measures of the targeted health problems and/or consequences of the health problems. The measures are: 1) Suicide rate per 100,000 averaged: 2001-2009; 2) Prescription drug death per 1,000 averaged: 2008-2009; 3) Drug arrest per 1,000 residents averaged: 2005-2011; 4) DUIs per 1,000 residents averaged: 2005-2011; 5) Liquor Law violates per 1,000 averaged: 2005-2011; and 6) percentage of car crashes involving alcohol averaged: 2005-2009. Counties were also assigned a *composite severity score* (sum of the rankings for each measure) that is used to rank the counties from *very high risk to lowest risk*.

Using this table, the reader can quickly identify what targeted health problems are evident in the county based on these six measures. The lower the score for a health problem the more severe that problem is in the county. For example, Beaverhead County, has low scores in four out of the six health problems; that is: liquor law violations (ranked 1), prescription drug deaths (ranked 6), suicide rate (ranked 8), and DUIs per 1,000 (ranked 9). As a result, the composite score for Beaverhead is 54 (highest is 326) and is considered a very high risk county.

The measures used are the best available direct measures or indicators of the targeted health problems. Some health problems are considered emerging issues such as Prescription Drug misuse/abuse with fewer years of data collection and imperfect measures.

**1. Suicide rate per 100,000 averaged 2001-2009**

County average suicide rate per 100,000 people from 2001-2009

Source: (Montana Department of Health and Human Services)

Note: Both due to data disclosure rules and because suicide rates can fluctuate considerably from year to year, suicide rates are averaged from 2001-2009 to get a clearer picture of the information.

**2. Prescription drug death per 1,000 average 2008-2010**

Total number of deaths with State Crime Lab's "top 20 Rx drugs" in system by county – averaged 2008-2010

Source: Montana Department of Justice

Note: Drug is not known to be the exact cause of death, just in a person's system at the time of death.

**3. Drug arrest per 1,000 resident's average 2005-2011**

Source: (Montana Board of Crime Control)

4. **DUIs per 1,000 residents average 2005-2011**

Average DUI rate per 1,000 county residents 2005-2011

Source: (Montana Board of Crime Control)<sup>1</sup>

5. **Liquor law violations per 1,000 average 2005-2011**

The vast majority of “Liquor Law” violations are “Minor in Possession of Alcohol”, someone under the age of 21 with or under the influence of alcohol. So this measure is intended to capture underage drinking prevalence within a particular county

Source: (Montana Board of Crime Control)

6. **Percent of car crashes involving drugs or alcohol average 2005 – 2009**

Source: (Montana Department of Transportation 2012)

### Ranking System Methodology

In order to create the *composite severity score* based on all six measures, each county was first ranked 1-56 depending on how high the rate was on each measure in that county. For example, Beaverhead County has the highest rate of underage drinking liquor law violations per 1,000 people; it is ranked “1”. The lower the score, the more severe is the problem. The numbers in each column represent where a county is ranked relative to all the counties in the state. For example, the county with the most severe suicide ranking is Deer Lodge (ranked 1), Mineral County for prescription drug deaths, Toole County for drug arrests, and so on.

The column entitled *Composite Severity Score* is the sum of the rankings for each measure. As noted earlier, Beaverhead County has low scores in four out of the six health problems; that is: liquor law violations (ranked 1), prescription drug deaths (ranked 6), suicide rate (ranked 8), and DUIs per 1,000 (ranked 9). As a result, the composite score for Beaverhead is 54 (lowest is 326) and is considered a very high risk county.

By ranking each county on each variable, it is easier to compare counties to each other and to identify how severe of a problem exists within a respective county.

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<sup>1</sup> Montana Board of Crime Control data do not include statistics from state or federal law enforcement agencies such as the Montana High Patrol, the U.S. Marshal’s Office or Fish, Wildlife and Parks.